

Operational Maneuver



U.S. Marine Corps (Penny Surdiken)

Landing in Mariana Islands, Tandem Thrust '99.

from the Sea

By CHARLES C. KRULAK

In *Only the Paranoid Survive*, former Intel Corporation president and CEO Andy Groves described how his business faced radical changes and not only survived but prospered. “Whether a company became a winner or a loser was related to its degree of adaptability.” The key factor is recognizing and taking advantage of strategic inflection points. He described a strategic inflection point as “a time in the life of a business when its fundamentals are about to change. . . . They are full-scale changes in the way business is conducted, so that simply adopting new technology or fighting the competition as you used to may be insufficient.”

The Joint Strategic Review, Quadrennial Defense Review, and National Defense Panel each indicated that the Armed Forces have reached a strategic inflection point in the area of national security. The next century promises to be a time when emerging technologies coupled with an agile mindset will, if exploited, fundamentally alter and substantially increase our warfighting capability.

The 21st Century Environment

Despite the recent downturn in Asian economies, leading economists continue to predict that by 2020 both China and India will emerge as trading superpowers, and the global economic center of gravity will shift from west to east. In that same year, eight of the ten largest

General Charles C. Krulak is the 31st Commandant of the Marine Corps.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 1999		2. REPORT TYPE		3. DATES COVERED 00-00-1999 to 00-00-1999	
4. TITLE AND SUBTITLE Operational Maneuver from the Sea				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Defense University, Institute for National Strategic Studies, 260 Fifth Avenue SW Bg 64 Fort Lesley J. McNair, Washington, DC, 20319				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 9	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

economies will lie around the rim of the Pacific and Indian Oceans. Almost every nation is becoming interdependent in the global marketplace. They compete for scarce resources—notably oil—to maintain economic expansion. Such growth is increasing the ability of emerging states to respond to security threats militarily with high-tech systems and weapons of mass destruction. History has repeatedly proven that this mix of highly charged competing economies, limited natural resources, and proliferation is a recipe for regional instability.

Further, threats today are multidimensional and are not limited to the power and authority of nation-states. Globalization and economic interdependence increase the power base of nonstate actors. Multinational corporations, non-governmental organizations, and bodies such as the United Nations, International Monetary Fund, and World Trade Organization have acquired influence over a domain once controlled by governments. Traditional lines of sovereignty have become blurred. And with the demise of the Soviet Union and the bipolarity on which our national security strategy was long oriented we have witnessed growing violence. The disintegration of the Soviet republics and Yugoslavia, the tragedies in Somalia and Rwanda, and the conflict in Liberia signify the trend toward splintering nations along ethnic, racial, religious, and tribal lines. This suggests not only crises between and within nations but a greater degree of general instability—a time of chaos.

The threat in the early years of the next century will not be the “son of Desert Storm”—it will be the “stepchild of Chechnya.” Our most dangerous enemy will not be doctrinaire or predictable. It will not attempt to match us tank for tank or plane for plane in an effort to refight the kind of industrial age war to which we are accustomed. Instead it will challenge us asymmetrically in ways against which we are least able to bring strength to bear—as we witnessed in the slums of Mogadishu. Moreover, as demonstrated in the recent bombing of our east African embassies, it will not limit its aggression to our military. Today we see only the tip of the iceberg. Combined with high-tech systems and weapons of mass destruction—which further empower both Third World nations and nonstate entities—this complex, dynamic, and asymmetric conflict could be as lethal as a clash between superpowers. One thing is certain: future threats will be far more difficult to manage.

Strategic Inflection Point

Traditionally the U.S. military has been reluctant to abandon attrition warfare and recognize the opportunities afforded by strategic inflection points. We do not like change and have paid for it time and again with blood. Fortunately, however, we have had the time and industrial capacity to overcome this lack of foresight. We have proven to be highly capable of adapting once threatened. At such times we have fallen back on the groundwork laid by visionaries. A junior Army officer, George Patton, recognized the strategic inflection point created by the industrial age. He studied the work of European strategists such as J.F.C. Fuller, B.H. Liddell-Hart, and Heinz Guderian and laid the basis for replacing the American horse cavalry with the speed, shock, and firepower of armored warfare. Similarly a young Marine captain, Pete Ellis, looked at the rising power of Japan in the Pacific, the need of the Navy for advanced bases for power projection in the region, and the likelihood that the Japanese would try to deny us that ability and wrote the seminal *Advanced Base Force Operations in Micronesia*. This was the genesis of the amphibious warfare capability that won the war in the Pacific and facilitated the invasion of Europe on the beaches of Normandy.

The present strategic inflection point, ushered in by the information revolution, comes at an even more exciting time—concurrent with a rare strategic pause, a period when we are unlikely to be challenged by a military peer-competitor in the initial years of the 21st century. The nature of the information age, however, makes it important to embrace the strategic inflection point early and be proactive in adapting to it. We may no longer be able to rely on the defense industrial base and the advantage of time that enabled us to overcome our failure to adapt prior to Pearl Harbor.

To adequately capitalize on the historic opportunity presented by the simultaneous strategic pause and strategic inflection point—and to remain a superpower—we must adapt. We must effect a revolution in military affairs. Accordingly the Armed Forces are developing operational concepts that will drive doctrine, structure, weapons, equipment, and training in the next century. For the first time, however, they are doing so from a joint perspective. Recognizing that the battlefield of tomorrow will demand synergy between and among land, sea, air, and space forces, each service is examining how it can maximize its contribution to the joint fight.

In July 1996 the Chairman issued *JV 2010* as a conceptual framework for how the Armed Forces will fight in the future. It serves as a common

**the threat in the early years
of the next century will be
the “stepchild of Chechnya”**



13th Marine Expeditionary Unit (Don L. Maes)

Udari range in Kuwait during Eager Mace 99-1.

template for leveraging technological advances and channeling human vitality and innovation to realize joint effectiveness. Focused on achieving dominance across the spectrum of military operations through new concepts, this template provides a shared direction for the services, unified commands, and defense agencies.

In developing service operational concepts, the first step is identifying the core capabilities we need, in what quantity we need them, in which services we find them, and in what balance we require them in the active and Reserve components. The roots of these capabilities are found in the *roles* that Congress assigns to each service. To provide the services with the specific guidance to fulfill these roles, every Secretary of Defense since James Forrestal has assigned functions by executive order to ensure that the United States maintains all the capabilities needed by the warfighting CINCs to accomplish their missions.

Within assigned roles and functions each service chief must orient his operational concepts toward providing generally service-unique capabilities to CINCs, which will be valuable in the new global security environment. The Air Force, for example, must focus on core capabilities to

fulfill its assigned roles and functions of strategic air and missile warfare and air transport. Additionally, it must look to space. The Navy must gear training, equipment, and organization to maintain and operate open sea lines of communication, to provide strategic sealift, and with the Marine Corps to project power ashore across the spectrum of warfare. The Army fulfills its role as the Nation's "chain mail" fist of diplomacy by ensuring that it has the capability to conduct decisive, sustained combat operations on land. And the Marine Corps must maintain those core competencies to meet its congressionally mandated role of fielding expeditionary forces-in-readiness.

The future operational concepts of each service must focus on its core competencies. While assigned functions should be such that there is no unnecessary duplication, it is also important that there are no gaps. Thus a degree of redundancy between and within service capabilities is actually desirable. The fact that wide receivers, tight ends, and running backs can all catch passes does not make that capability unnecessarily duplicative for a team. They have different but complementary abilities that present a multifaceted, synergistic offense. No one would suggest that a team save money by eliminating tight ends because their ability to catch passes is duplicative.

LCAC approaching *USS Bonhomme Richard*.



Fleet Imaging Command, Pacific (Jon Gesch)

The Naval Contribution

Our naval services will play a crucial role in the next century. With the end of the Cold War, a permanent U.S. presence is no longer required in many parts of the world. In addition, some nations increasingly view the United States as a cultural threat. Thus permanent land-based presence overseas will likely continue to shrink. Moreover, the tyranny of distance—particularly in the Pacific-Indian Ocean and Persian Gulf littorals—challenges

the response time of land-based forces, making the forward deployment of naval forces necessary. Distance equates to time and time equates to political leverage. The information age is making time the pre-

dominant factor in warfare. The more immediate our involvement the more rapid and credible our response must be, and thus the more we can influence the outcome.

In this environment U.S. interests can only be promoted by a wide range of global strategic and operational capabilities and selective presence. Naval expeditionary forces, being strategically and operationally mobile and free from relying on host nation support or permission to operate in theater, offer both CINCs and JFCs a credible presence abroad. Consisting of carrier battle groups and amphibious readiness groups, along with embarked Marine air-ground task forces (MAGTFs), naval expeditionary forces shape the battlespace, deter or contain conflicts, and contribute greatly to prosecuting joint campaigns

and rapidly defeating an enemy. Indeed, naval expeditionary forces will constitute the leading edge of JTF responses to crises or conflicts.

Operational Maneuver from the Sea

It is insufficient to field naval expeditionary forces prepared to fight the battles of tomorrow with doctrine and weapons designed for the wars of yesterday. Potential enemies are unlikely to again allow us the luxury of an unopposed buildup of combat power in theater like that afforded in Southwest Asia. We must adapt our forces to the realities of the new era and capitalize on the opportunities afforded by the strategic inflection point. To defeat the complex and dynamic threats of 2010 and beyond, we must field a naval force that can respond to a wide array of contingencies across the conflict spectrum—from disaster relief and humanitarian operations to full-fledged sustained combat at sea and ashore. It must be organized, trained, and equipped with weapons and doctrine to simultaneously meet multiple challenges throughout this spectrum.

The Marine Corps is committed to exploiting the strategic inflection point in military affairs by focusing experimentation, research, development, and procurement strategies on bringing the doctrinal concept known as Operational Maneuver from the Sea (OMFTS) to fruition. OMFTS is a marriage between maneuver and naval warfare. From maneuver warfare comes an understanding

the doctrinal concept known as Operational Maneuver from the Sea is a marriage between maneuver and naval warfare

of the nature of conflict, the imperative of decisive objectives, and the requirement for skillful operations at a high tempo. Naval warfare contributes to a deep appreciation of the strategic and operational levels, advantages inherent in seaborne movement, and flexibility afforded by sea-based logistics, fire support, and force sustainment. The heart of OMFTS is the maneuver of naval forces on the operational level to exploit enemy vulnerabilities to deal a decisive blow. It is directed against a center of gravity—an objective (such as unit, capability, or perception) whose seizure, destruction, or neutralization will profoundly impact an enemy's capability to continue the struggle. OMFTS is distinguished from all other species of operational maneuver by the extensive use of the sea for operational advantage. The sea is as an avenue for friendly movement (dominant maneuver) and a barrier to an enemy (force protection). Concurrently, it is a means of avoiding disadvantageous engagements. It provides forces with a secure assembly or attack position and controlled medium for logistics, fire support, and tactical and operational movement.

OMFTS is not merely a way of introducing an expeditionary force onto foreign soil but of projecting expeditionary power directly against a center of gravity or critical vulnerability. The idea is to use the operational mobility of naval power to launch an attack at the time and place of our choosing to decisively exploit an enemy weakness. OMFTS envisions making the beach transparent to amphibious warfare through the ship-to-objective maneuver supporting concept. No longer will the success of amphibious operations rely on the ability to create, maintain, and protect a lodgment for the rapid and progressive buildup of combat power ashore. Made possible by technological advances for transporting landing forces ashore, OMFTS seeks to generate high operating tempo by combining ship-to-shore movement and what has traditionally been called subsequent operations ashore into a single decisive maneuver directly from amphibious shipping.

The operational pillars explicit in *JV 2010*—dominant maneuver, precision engagement, focused logistics, and force protection—are all deeply imbedded within the OMFTS concept. Future improvements in the precision and lethality of long-range weapons, greater reliance on sea-based fire support, and a possible decrease in the petroleum, oil, and lubricant requirements for military land vehicles promise to greatly reduce or eliminate the need to establish significant fire support platforms and supply facilities ashore. This reduction of land-based combat support and logistics coupled with focused logistics initiatives will narrow the range of threats, reduce force protection requirements, and facilitate the rapid



Establishing communications in Volos, Greece.

U.S. Navy

reembarkation and redeployment of MAGTFs. The additional speed and flexibility offered by these new techniques could translate into high tempos of operation. By using the sea as maneuver space, enemy vulnerabilities can be exploited and opportunities can be seized before they vanish. In short, MAGTF will act so quickly the enemy will be unable to react effectively. This is dominant maneuver.

To prevent unnecessary duplication with other services, OMFTS focuses on providing core competencies needed by the Marine Corps to fulfill its role as the Nation's expeditionary force-in-readiness: expeditionary preparedness, combined-arms operations, expeditionary operations, sea-based operations, forcible entry from the sea, and Reserve integration. They define the culture of the Corps as well as its role in the defense establishment. They are what it brings to the joint fight.

Empowering the Joint Force Commander

OMFTS will significantly enhance MAGTF capabilities, making it an even more useful force for warfighting CINCs and JFCs. It enables a task force to serve as a sea-based operational maneuver element (OME). It will not only increase decisiveness, flexibility, and responsiveness in military operations other than war but enhance its capability

for forcible entry and complementing other services in sustained operations ashore at the higher end of the conflict spectrum. Exercising OMFTS, the force can execute precise combat actions, both concurrently and in sequence, that are focused on profoundly impacting an enemy's ability and will to fight. Employed as an OME, the force will constitute a unique sea-based operational capability for JFC maintained in immediate readiness to create its own opportunities or exploit those resulting from the activities of other joint force components. In this role, MAGTFs will be assigned operational level missions that will have a decisive impact on the campaign's overall outcome.

Sea-basing. OMFTS affords the CINC and JFC the advantages of a sea-based force, making the naval expeditionary force his most significant tool in the littoral environment. Since three-quarters of the world's population, fourth-fifths of national capitals, and nearly all of the marketplaces for international trade lie within 300 miles of a coast, the vast majority of 21st century conflicts

and crises will likely take place in the littorals. Employing OMFTS, naval expeditionary forces will provide the range of capabilities for a maritime power to compensate for the absence of permanent overseas bases. The OMFTS-capable sea-based force offers mobility, sustainability, rapid

deployment, forward presence, and extraordinary strategic reach. With sea-based logistics, fire support, medical facilities, and command and control assets, this force maximizes its protection by limiting its footprint—and hence its vulnerability—ashore. This degree of force protection is further enhanced by initiating OMFTS from well over the horizon. Finally, the sea-based force can shape the operational environment. JFC can begin operations in the time, place, and manner of his choosing. He thus retains the initiative and controls the key elements of time and space.

Operational depth. OMFTS will enable us to direct our efforts against the operational depth of the enemy in terms of geographic reach, time, and function. Exercising it, MAGTF can rapidly posture forces within theater by developing the operational picture via reconnaissance-pull tactics and task organizing only what is needed for the fight. This permits JFC to sustain momentum and take advantage of all available resources to press the fight, attacking enemy forces and capabilities simultaneously, vice sequentially, throughout the battlespace.

Mission depth. With the OMFTS-capable task force, JFC will have a far more versatile warfighting tool. OMFTS enhances the force to serve as a multi-role organization. It will be able to operate not only across the geographical depth of a region, but across the spectrum of conflict and tasks at the same time. Modern crises represent an amorphous phenomenon—a “three block war” where the Marine Corps may have to execute a range of missions across different levels of crisis response and warfare within the narrow confines of three contiguous city blocks. As the crisis evolves, MAGTF will be able to adapt and shift mission focus in mid-stride without losing momentum or effect.

Tempo. Through the naval expeditionary force employing OMFTS, JFC will control the rate of actions and interactions within a campaign—the tempo—to maintain the initiative. He will do so in subtle and multidimensional terms by altering enemy perceptions as well as attacking the entire breadth and depth of its capabilities. Tempo is relative and not absolute. The focus must be on ensuring that our tempo is superior to an enemy's. Overwhelming tempo will bring about operational shock (or psychological dislocation) through a rapid breakdown of an enemy, causing it to become disoriented, diverted from its objective, and unable to make decisions.

Reach back. While we have come a long way in cooperation and interoperability among the services, we realize that tomorrow's chaotic battlefield will not permit us to stop there. We do not have a monopoly on good ideas. The OMFTS-capable task force will thus further empower JFC with the knowledge and skills of other government agencies, nongovernmental organizations, academia, business, information systems, and scientific and technical organizations via computers and telecommunications. Command, control, communications, computers, and intelligence (C⁴I) will be geared to providing JFC a “reach back” capability to tap into these resources for interagency and coalition responses. This capability will be embedded in the MAGTF command element to be at the commander's fingertips. The advantages incurred by joint interagency task forces, centered around a MAGTF commander as JFC, also demonstrate the potential of the OMFTS-capable task force of tomorrow.

Enabling force. The decisive ground and air combat power brought to bear by the Army and Air Force is fundamental where sustained operations ashore are needed. In these scenarios, the OMFTS naval expeditionary force can act as an enabler to prepare theaters for heavier forces. Enabling operations may be as fundamental as creating a command and coordination system for an assembling joint or coalition force to plug into, or

the decisive power brought to bear by the Army and Air Force is fundamental where sustained operations ashore are needed

as complex as conducting a forcible entry to seize forward operating bases for more substantive ground, naval, and aviation forces. Accordingly, OMFTS is driving Marine doctrine development, training, and acquisition to ensure that command elements are capable of functioning as interim JFC headquarters—and that each MAGTF aviation combat element commander can serve as an enabling joint force air component commander.

Exploitation force. The OMFTS-capable task force will also act as a commander's littoral exploitation force. Serving as an operational maneuver element (OME), MAGTF takes advantage of the opportunities created by the activity of other joint force components. JFC will exploit enemy reactions through rapid and focused MAGTF operations which capitalize on the results of ongoing engagements to achieve decisive results. For example, a task force functioning as an OME may exploit a joint force breakthrough by striking at enemy units attempting to retrograde from the engagement or attack other enemy forces trying to reinforce.

Enabling Technologies

The Marine Corps is pursuing technology to field MAGTFs with the command and control, mobility, firepower, logistics, communications, and intelligence capabilities to conduct OMFTS. It has thus shown an absolute commitment to taking advantage of the strategic inflection point and the strategic pause. The Corps is taking reasonable risks in its modernization efforts by keeping some of its essential equipment end items well beyond their planned service lives to avoid evolutionary or bridging technologies in favor of leveraging leap ahead technologies that promise a warfighting edge well into the next century. The three most prominent enabling technologies are the MV-22 Osprey, the advanced amphibious assault vehicle (AAAV), and the joint strike fighter (JSF).

MV-22 Osprey. OMFTS requires the task force to strike from over the horizon to project land forces deep into the enemy interior. The revolutionary MV-22 Osprey tilt rotor aircraft makes this a reality. With a 680-nautical mile combat radius and a 2,100-mile ferry ability, the Osprey will range throughout the opponent's operational depth. It is capable of global self-deployment with its aerial refueling ability. Its range, speed, and payload nearly triple the current MAGTF area of influence. This significantly complicates an enemy's defensive requirements, inhibits its ability to concentrate combat power, and effectively neutralizes its efforts to deny access to our forces.

The opponent has to defend everywhere. The superior combat radius of this aircraft also allows Navy ships to maintain adequate stand-off distance from enemy ship-to-shore missiles, underwater mines, and other emerging threats. Although procuring the UH-60 Blackhawk would have eased difficulties that the Marines are experiencing with the 30-year-old CH-46 Sea Knight helicopter, the strategic pause makes the MV-22 a logical and ultimately cost-effective choice. The additional capability this platform affords MAGTF, and hence JFC, makes it well worth the wait.

Advanced amphibious assault vehicle. AAAV is the third leg of the amphibious triad, joining the MV-22 and the landing craft air cushion (already in service). Each component is critical to the over-the-horizon assaults envisioned by OMFTS. AAAV will allow naval expeditionary forces to eliminate the battlefield mobility gap traditionally associated with amphibious operations and, for the first time in the history of naval warfare, maneuver from ship to objective in a single seamless stroke while giving both the ships and landing forces sufficient sea space for maneuver, surprise, and protection. The transition from sea to land and vice versa is virtually transparent to the force embarked aboard AAAVs. Projection of these forces promises far greater opportunity for surprise and rapid penetration of weak points in enemy littoral defenses. Although holding on to the 27-year-old assault amphibian vehicle for another eight years will be painful, AAAV leap ahead capabilities make this platform the right decision.

Joint strike fighter. The short take off and vertical landing (STOVL) JSF brings a quantum increase in fixed wing air support to the OMFTS-capable task force. This aircraft will provide the Marines with a superior performance, state-of-the-art, multi-mission jet aircraft that can operate with full mission loads from amphibious ships or austere expeditionary airfields. The STOVL JSF will be a stealthy, superior attack aircraft, a top-line fighter, and an escort for the MV-22 troop transport—all in one platform. It will replace the F/A-18 C/D Hornet and the AV-8B Harrier in the Marine inventory, surpassing the combined strengths and capabilities of both. The JSF program promises not only to replace Marine Corps fixed wing aircraft but the Air Force F-16 Falcon, Navy F/A-18 C/D, and Royal Navy AV-8B. This neck down approach will result in optimal commonality between variants and minimize life cycle costs. Again, the easier acquisition choice with respect to maintaining the aging fleet of fixed wing aircraft would be to procure the F/A-18 E/F Super Hornet for the Marine Corps, but only JSF brings the expeditionary, multi-mission capability needed in the next century.



Urban Warrior '99
in Monterey, California.



Fleet Imaging Command, Pacific (Eric Logsdon)

Primarily addressing current limitations in mobility and firepower, the MV-22, AAV, and STOVL JSF are three tangible steps in progressively enabling the task force to conduct OMFTS. They represent a significant beginning to an acquisition strategy oriented toward replacing the aging Cold War arsenal with agile, multi-role systems that can contribute across the spectrum of conflict and win not just tomorrow's fight but the day after tomorrow's. A major prerequisite in pursuing these technologies is versatility. OMFTS platforms must contribute to operations in environments where enemies seek to minimize our

technological advantage. Where the platform itself presents inherent environmental limitations, incorporating versatility in its munitions may be the answer. Non-lethal weapons offer substantial promise in this regard.

The Human Dimension

The diverse nature of the 21st century threat requires much more than acquiring advanced equipment and weapons systems. As always, people and not machines define our success in war. Time and again well-trained, disciplined, and cohesive units—people with strong character—have overcome disadvantages in both size and weaponry. As mentioned, our 21st century enemy will avoid our strengths and instead confront us in environments that negate technological advantages. It will attempt to fight in the close terrain of the urban jungle—where it is difficult to consolidate combat power and employ more lethal weapons without causing collateral damage and injuring innocents. They will seek to exploit the media to depict Americans making critical judgment errors in the heat of battle and thus influence world opinion and popular will to sustain the effort. In this environment, individual

Fleet Imaging Command, Pacific (Eric Logsdon)

decisions can have strategic implications. Because the human dimension is more significant than the technological, the rationale for our acquisition strategy is to equip the man and not man the equipment.

Junior enlisted members of the Marine Corps must have sound judgment and be both improvisers and innovators. When the world is literally exploding around them, they must have the intelligence, skills, and character to take the right action. The OMFTS warfighting concept accounts

for the human dimension by enhancing individual training and promoting an innovative spirit within the Marine Corps as an institution. We implemented this transformation to develop individual, values-

based decisionmaking abilities along with flexible but unbreakable unit cohesion in situations of extreme stress. Consisting of four phases—recruiting, recruit training, cohesion, and sustainment—the process begins when the applicants come into contact with recruiters and will continue throughout their service. Because those executing OMFTS must be comfortable with high-tech weapons and information systems and trained to employ them, the Marine Corps has elevated its recruiting and training standards across the board.

Experimentation

Many OMFTS-enabling technologies—particularly those that address naval surface fire support, C⁴I, mine countermeasures, and sea-based sustained logistics platforms—are still being identified and developed. Similarly, the doctrine, training, education, and structure of the ideal OMFTS force is a work in progress. To facilitate this effort and provide a forum for institutional innovation, the Marine Corps Warfighting Laboratory (MCWL) was established in 1995. It is presently engaged in a five-year experimentation plan (FYEP) entitled Sea Dragon—a process of concept development and experimentation that builds on the existing strengths of the naval services within a joint warfighting framework. In coordination with the Navy, the FYEP goal is to improve the capabilities of naval expeditionary forces across the conflict spectrum. The plan is supported by Extending the Littoral Battlespace, an advanced concept technology demonstration (ACTD) that focuses on command and control, fires, and targeting. Further, the plan is designed to develop integrated systems to satisfy military demands with a combination of commercial off-the-shelf technology, ACTD programs, and improved systems which may remain relevant in the future.

To capitalize on innovation, MCWL has placed liaison officers throughout DOD and other service warfighting laboratories. The lab routinely sends officers to explore enabling technologies, techniques, and concepts being developed by institutions of higher education such as the California Polytechnic Institute, Johns Hopkins, and Penn State as well as private firms such as Eastman Kodak, Lockheed Martin, and Erickson. These liaison officers enable MCWL to coordinate its experimental activities with other institutions. They openly subject OMFTS to the professional and intellectual scrutiny of all contributors to the joint force to validate utility and eliminate duplication. OMFTS, for example, was addressed in the Naval War College Global Wargames in 1997 and 1998 and in the Army after Next Wargame of 1997. The charter recently signed by the Secretary of Defense assigning U.S. Atlantic Command the mission of joint warfighting experimentation will ensure that such cross-pollination opportunities become even more available.

This is the dawn of a challenging but promising era. Recognizing the opportunity afforded by a rare strategic inflection point occurring simultaneously with a strategic pause, each service is committed to pursuing operational concepts to doctrine, organization, and matériel well into the 21st century. For the first time the Joint Chiefs share a common perspective to develop and pursue service operational concepts. Within the conceptual framework of *JV 2010*, they are focused on providing warfighting CINCs with core capabilities to respond to the conventional and asymmetric threats. Such capabilities are derived from congressionally defined (and routinely reviewed) roles and DOD directed functions.

The Marine Corps operational concept for the future, Operational Maneuver from the Sea, is an example of our commitment. At its heart is the maneuver of naval forces on the operational level which exploits an enemy's center of gravity by inflicting a decisive blow. With a focus on deploying expeditionary forces-in-readiness, OMFTS provides CINCs and JFCs with a utilitarian, sea-based MAGTF with capabilities across the operational spectrum—from disaster relief and humanitarian operations to full-fledged sustained combat. The Marine Corps is well on the way to developing the people, doctrine, and organizations and to acquiring equipment and systems to field enhanced, OMFTS-capable MAGTFs. With a similar focus throughout the military on innovation, aggressive and cooperative experimentation, and acquisition programs which exploit leap ahead technologies, the United States will remain a superpower for generations to come.

JFQ

Sea Dragon builds on existing strengths of the naval services within a joint warfighting framework